REMARKS

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

The present invention as set forth in **Claim 1** relates to a positive electrode active material which comprises a lithium-cobalt composite oxide represented by the formula $Li_pCo_xM_yO_zF_a$ (wherein M is a transition metal element other than Co or an alkaline earth metal element, $0.9 \leqq p \leqq 1.1$, $0.980 \leqq x \leqq 1.000$, $0 \leqq y \leqq 0.02$, $1.9 \leqq z \leqq 2.1$, $x+y=1$ and $0 \leqq a \leqq 0.02$) and comprising a mixture comprising **substantially spherical first particles of lithium-cobalt composite oxide having such a sharp particle size distribution that the volume basis cumulative size D10 is at least 50% of the average particle size D50, and the volume basis cumulative size D90 is at most 150% of the average particle size D50, and second particles of lithium-cobalt composite oxide filling the space among the above lithium-cobalt composite oxide particles, in a mass ratio of first particles/second particles of from 1/2 to 9/1.**

By mixing the above substantially spherical first particles of a lithium' cobalt composite oxide having the above predetermined sharp particle size distribution, and the above second particles of a lithium-cobalt composite oxide filling the space among the first particles, in the above predetermined mixing ratio, it becomes possible to accomplish the object of the present invention for the first time, namely, to obtain a positive electrode active material having a compacted dense structure and a large volume capacity density and press density (see page 5, lines 9 to 26 of the present specification).

One feature of the positive electrode active material of the present invention resides in that this material comprises substantially spherical first particles of a lithium-cobalt composite oxide which has a sharp particle size distribution attributable to a predetermined

particle size distribution, and second particles of a lithium-cobalt composite oxide filling the space among the above lithium-cobalt composite oxide (first particles).

Moriuchi et al (JP 2003-257416) and Matsubara et al (US 2001/0010807) fail to disclose or suggest the constitution of the present invention wherein a lithium-cobalt composite oxide (first particles) having a predetermined particle size distribution and a lithium-cobalt composite oxide (second particles) filling the space among the lithium-cobalt composite oxide (first particles) are mixed in a predetermined mixing ratio to form a mixture.

Further, Moriuchi et al and Matsubara et al fail disclose nor suggest the technical concept of realizing a compacted dense structure and a large volume capacity density and press density by using the positive electrode active material having such constitution.

Moriuchi et al disclose a mixture of lithium-cobalt composite oxides containing a lithium cobalt composite oxide having an average particle size of from 7 to 13 μm and a lithium-cobalt composite oxide having an average particle size of from 1 to 6 μm in a weight ratio of 1: 0.1-1.5 (Claim 1). This prior art reference also describes that the average particle size of the mixture of lithium-cobalt composite oxides is within a range of from 5 to 13 μm (paragraph 0024). It further describes that the diameter of 10% volume (D10) of this mixture of lithium-cobalt composite oxides is within a range of particle size distribution of from 2 to 6 μm, and the diameter of 90% volume (D90) is within a range of particle size distribution of from 15 to 25 μm (paragraph 0024).

On the other hand, Matsubara discloses a lithium- nickel-cobalt composite oxide as a positive electrode active material. Matsubara discloses that the average particle size of this positive electrode active material is preferably from 5 to 30 μm (paragraph 0026). It further describes that this positive electrode active material is made of particles having limited particle size distributions with 10% of the particle size distribution being 0.5D or higher and 90% being 2D or lower, relative to the average secondary particle size D (paragraph 0017).

However, Moriuchi et al and Matsubara et al disclose nothing more than a lithium-cobalt composite oxide or a lithium-nickel-cobalt composite oxide, having a predetermined particle size and a predetermined particle size distribution. Moriuchi et al and Matsubara et al neither disclose nor suggest the constitution of the present invention wherein a lithium-cobalt composite oxide (first particles) having a predetermined particle size distribution and a lithium-cobalt composite oxide (second particles) filling the space among the lithium-cobalt composite oxide (first particles) are mixed in a predetermined mixing ratio to form a mixture. Further, Moriuchi et al and Matsubara et al neither disclose nor suggest the technical concept of realizing a compacted dense structure and a large volume capacity density and press density by using the positive electrode active material having such constitution.

With the particles described in Moriuchi et al and Matsubara et al simply having the predetermined particle size and particle size distribution, it is **impossible** to obtain a positive electrode active material according to the present invention, having a large volume capacity density. This will be evident from the comparison between Examples 1 to 4 and Example 5 (Comparative Example) of the present specification (please see the data in the following Table 1 extracted from the data of the present specification).

Table 1: The comparison of the apparent density after pressing

		The mixture ratio of the first particles and the second particles (the basis of mass)	The apparent density after pressing (g/cm3)	The initial weight capacity density (mA/g)
Example 1	Present invention	A:B = 60:40	3.20	159
Example 2	Present invention	A:B = 80:20	3.23	160
Example 3	Present invention	A:B = 40:60	3.13	160
Example 4	Present invention	E:B = 60:40	3.14	160
Example 5	Comparative example	A = 100	2.950	160

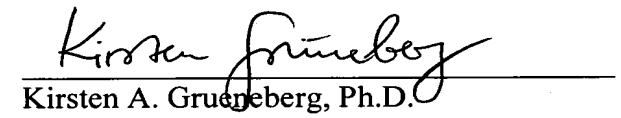
As explained above, it is difficult to expect the present invention from Moriuchi et al and Matsubara which neither disclose nor suggest the constitution as the essential features of Claim 1, and therefore the present invention is unobvious over the cited references.

Therefore, the rejection of Claims 1, 3-5, 16 and 18 under 35 U.S.C. § 103(a) over Moriuchi et al (JP 2003-257416) in view of Matsubara et al (US 2001/0010807) is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Kirsten A. Grueneberg, Ph.D.
Registration No.: 47,297

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
NFO:KAG:
(OSMMN 02/07)